

Project ID	Category Name	Project Title	Award Name	GP Nominee	Team Name	School Name	Grade
ABEH-03	Animal and Behavioral Sciences	Cortical Connectivity Analysis in Pediatric ADHD: Integrating EEG Data, Deep Learning Models, and Reaction Times for a Novel Cognitive Assessment	First Place	Grand Prize Winner	Medha Pappula	Thomas Jefferson High School for Science and Technology	10
ABEH-04	Animal and Behavioral Sciences	DeMHeM: A Novel Multi-task Learning Framework to Analyze Mental Health Conditions on Social Media	Third Place		Rocco Zhang	Thomas Jefferson High School for Science and Technology	11
BENG-02	Biomedical Engineering	CNN Identification of Abnormal Lung Sounds as a Potential Precursor of SIDS	Second Place		Tejavi Kumar, Sravya Tathicherla	Thomas Jefferson High School for Science and Technology	11
BMED-06	Biomedical and Health Sciences	Cytological Evaluation of Thyroid Carcinoma: Machine Learning Analysis of Fine-Needle Aspiration Biopsies	First Place	Grand Prize Nominee	Anvith Kakkera, Aneesh Kalla	Thomas Jefferson High School for Science and Technology	11
BMED-07	Biomedical and Health Sciences	NeoSense: Using Fast Fourier Transform to Optimize Neonatal Seizure Detection	First Place	Grand Prize Alternate	Deven Hagen, Rohan Kotla	Thomas Jefferson High School for Science and Technology	11
CHEM-01	Chemistry	TheraLink: Detecting Onset Alzheimer's Disease Utilizing 3D Convolutional Neural Networks MRI Analysis and Advancing Repurposed Targeted Therapeutics	Second Place		Manini Dhingra, Vidhi Reddy	Thomas Jefferson High School for Science and Technology	11

CSMA-04	Computer Science and Math	Learned Plasticity: Adaptive, Carbon-Conscious Artificial Intelligence via Prefrontal Cortex Inspired Meta Learning	First Place		Rohan Kalahasty	Thomas Jefferson High School for Science and Technology	12
CSMA-05	Computer Science and Math	Solving the Admissibility Problem: Radon Algorithms to Minimize Radiation	Second Place		Mihika Dusad	Thomas Jefferson High School for Science and Technology	12
CSMA-06	Computer Science and Math	EyeLS: A Novel, Accessible Gaze-Tracking Application to Revolutionize Non-Verbal Communication for Patients with Neurogenerative Disorders	Second Place		Soham Jain	Thomas Jefferson High School for Science and Technology	11
CSMA-07	Computer Science and Math	A Novel Blockchain System and Low-Cost Device for Air Quality Aggregation			Samuel Stankiewicz	Thomas Jefferson High School for Science and Technology	10
CSMA-08	Computer Science and Math	Multi-Agent Robotic Path Planning via Particle-based Belief Propagation	First Place		Manav Gagvani	Thomas Jefferson High School for Science and Technology	12
CSMA-09	Computer Science and Math	Integrated Assistive Technology for the Visually Impaired – 3D Scanner with a Tactile Display and Machine Learning	First Place	Grand Prize Nominee	Seoyoung Jun	Thomas Jefferson High School for Science and Technology	12
CSMA-10	Computer Science and Math	Diffusion-Based Conditional Mesh Synthesis for Efficient 3D Prototyping	First Place	Grand Prize Alternate	Anant Khandelwal, Sritan Motati, Siddhant Sood	Thomas Jefferson High School for Science and Technology	12

CSMA-11	Computer Science and Math	Predicting Infection Rates using Mathematical Modeling and Machine Learning			Arjun Pagidi	Thomas Jefferson High School for Science and Technology	11
ENVE-02	Environmental Engineering	A Novel Framework Using GANs to Create Land Resource Management Strategy	First Place	Grand Prize Winner	Sanchali Banerjee	Thomas Jefferson High School for Science and Technology	11
ENVE-03	Environmental Engineering	AirWise: A Deep Learning Framework for High-Resolution PM2.5 Prediction	Second Place		Phoebe Pan	Thomas Jefferson High School for Science and Technology	11
ETEC-03	Engineering Technology	Novel Inverse Control Methods to Optimize Multiple Objectives on Constrained Autonomous Systems	First Place		Brian Zhou	Thomas Jefferson High School for Science and Technology	12
MATS-02	Materials Science	The Viability of PTCDAs as an Active Cathode Material in Lithium-ion and Sodium-ion Batteries	Second Place		Aaryan Sumesh	Thomas Jefferson High School for Science and Technology	11
MATS-03	Materials Science	Using Chiral Carbon Nanotubes for Polarization in Memory-Based Spintronics	First Place	Grand Prize Winner	Ryan Singh, Surbhi Singla	Thomas Jefferson High School for Science and Technology	10
MCRO-02	Microbiology	Biofilm Composition in Fungi Fusarium and Development of a Multi-targeted Antifungal Therapy to Inhibit Proliferation	First Place	Grand Prize Alternate	Ray Zhang	Thomas Jefferson High School for Science and Technology	11
MCRO-03	Microbiology	Discovery of Medically Important Lytic Bacteriophages from the Environment	Honorable Mention		Madeline Levorson	Thomas Jefferson High School for Science and Technology	10

PHYS-01	Physics and Astronomy	Linear Polarization-based Entanglement of a Single Photon, 2-Qubit Spatial Mode System	First Place		Neha Chandran, Srimaye Peddinti	Thomas Jefferson High School for Science and Technology	12
PHYS-02	Physics and Astronomy	Identifying Future Asteroid Mining Targets using a Deep Convolutional Neural Network	First Place	Grand Prize Alternate	Anusha Agarwal	Thomas Jefferson High School for Science and Technology	10
PHYS-03	Physics and Astronomy	Hybrid Quantum-Classical Machine Learning for Dementia Detection	First Place	Grand Prize Nominee	Ryan Kim	Thomas Jefferson High School for Science and Technology	12
PLNT-01	Plant Sciences	The Effect of Increased CO2 Absorption in the Soil on Herbicide Resistance in Amaranth	First Place	Grand Prize Nominee	Veda Murthy	Thomas Jefferson High School for Science and Technology	10
PLNT-02	Plant Sciences	Combating Pediatric Leukemia using the Plant Compounds Quercetin and Vincristine	First Place	Grand Prize Nominee	Ashrita Gandhari, Archishma Marrapu	Thomas Jefferson High School for Science and Technology	11